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# **Research challenges and delayed gratification in information seeking behavior: a case study of research scholars**

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## **Abstract**

This study aims to find out the association between delayed gratification in information seeking behavior of research scholars and the challenges during the process of research. Also, determining how the research scholars face the challenges of the research work. The survey was adopted for data collection through a questionnaire. The sample population of the study is research scholars of three universities in Karnataka (India). The finding of the study indicates that the maximum reported challenge by research scholars during the research process belongs to data collection and the statistical analysis of the data. The minimum challenge belongs to designing the tables and selection of the topic. To find a solution to the challenges, 40 percent of the research scholars declared that they would consult with the guide to get the solution. There is a significant relationship between research challenges including finding the new resources, developing measurement tools, statistical analysis of the data, designing the tables and the dimension of delayed gratification in information seeking behavior.

**Keywords:** Delayed gratification, Information seeking behavior, Challenges, Research process.

## **Introduction**

Higher education institutions should prepare students for progressively interdisciplinary and collaborative research that should be viewed as a product of immersion in a serious research experience. University needs a research scholar who is well experienced during the process of research not only for the study but also for contemporary life. In higher education, the objective is that a research scholar can overcome the barriers during the process of research as a doctoral student and have the capacity to face the challenges at the beginning of and during their professional lives.

Golde and Gallagher (1999) considered, the organization trains the research scholars during the process of research and stated that they should be able to face all the challenges during their academic life. They identified in the paper that the Ph.D. is a research degree, designed to prepare students to become scholars. Council of Graduate Schools (1990) explained that the student should acquire the skills expected of a

scholar who has made an original contribution to the field and has attained the required expertise to continue to do so.

There are several challenges which the research scholars may face during research work. These challenges may be for topic selection, data collection or another process of research like analysis of data. For the quality of the thesis, research scholars should have the ability to overcome the challenges which they face during the research work. The objective of the study is to find out the challenges which the research scholars face while doing the research. The study aims to find out the relationship between delayed gratification in information seeking behavior of research scholars and challenges which they face during the research process. Moreover, the analysis variance of challenges of research has been done by demographic and educational variables.

### **Review of literature**

In the past decade, most of the organization emphasis on increasing the experiences of the doctoral student. Doctoral students are educated at the university to be tomorrow's scholars and researchers. The higher education community finds itself immersed in a multitude of theories and research that assist us in explaining, interpreting, understanding, and even predicting college students' behavior, cognition, aspirations, and attitudes (Gardner 2009, 2). Student development has been described as the ways that a student grows, progresses, or increases his or her developmental capabilities as a result of enrollment in an institution of higher education (Rodgers 1990, 27). In the study of Sanford (1966), when students are confronted with a challenge, they should be able to handle it. If they could solve the problem, they will be identified for managing it. However, there should be some support while facing the challenges.

The Ph.D. thesis is the final product of years of research. Research scholars like to be successful and complete the thesis with the high award. Their grade they will indicate their abilities and shows how much training they require to be an independent research scholar. Before the primarily writing the thesis, they should select a research topic. The topic selection is one of the challenges and difficulties which research scholars have during the process of research. (Bowen and Rudenstine, 1992; Gardner, 2008; Katz, 1997; Lovitts, 2001; Nerad and Miller, 1997)

Based on the Council of Graduate Schools (2005), one of the difficulties that the research scholars have during at the starting of the research is understanding their field of study. Also, they should know the research methodologies and study structure which is also one that the student undertakes collaboratively with his or her advisor and, in many cases, the dissertation committee. Regardless, the dissertation stands as the ultimate test of the student's knowledge gained throughout all earlier doctoral program experiences and the skills needed to persist through completion.

However, the Ph.D. advisor plays a vital role in the successful completion of the dissertation. Katz (1997) describes the role of advisor in caring during the research for selection of the topic and support to complete the thesis. Sometimes the Ph.D. students are not good enough in their skills before starting the thesis even if they have strong interest regarding their topic. As Baird (1997) tells students, writing a thesis is like no other writing they have done before and like none they will do later. It is a unique intellectual and practical enterprise. It requires several elements such as an idea, a method, a committee, advice and guidance, finances, familiarity with the process, and its forms, a peer group, and encouragement. (Baird 1997, 102) Sometimes students realize that the coursework and thesis are separate. However, they are linked together. The students should be prepared and well experienced to start the research work professionally. They should learn how to begin the research with possible ideas. At the same time, the role of the advisor is to help and encourage them. Furthermore, the coursework should teach the students the methodology and provide them with all the skills which they need for research work.

### ***Delay of Gratification in information seeking behavior***

Delay of gratification is a postponement of immediately available opportunities to satisfy impulses in favor of the pursuance of chosen important rewards or goals. (Bembenutty and Karabenick 1998a, 329). Chatman (1991) who applied gratification theory to the information-seeking behavior has confirmed the usefulness of gratification theory. She identified what defines information problems, motivations, and information seeking behavior. We have extracted four factors for delay of gratification in information seeking behavior during the exploratory study as a part of this study. These dimensions are: 1) Search information, 2) Communication with experts, 3) Collect more information, 4) Topic selection.

In this study, we have identified the challenges of research and the relationship between the delay of gratification in information seeking behavior and these challenges.

### **Method**

This study is a quantitative study, and the design of the study is the survey method. The data has been collected from research scholars (462 questionnaires) using stratified sampling in three universities in Karnataka (India) including the University of Mysore, Bangalore University, and Karnatak University. These questionnaires are distributed between art and humanities, science and technology, commerce, education, and law. The study recognized some of the challenges which research scholars face during the research work. The IBM SPSS software (version 24) was used for statistical analysis of the data.

For the analysis of the data and to show the relationship and differences between dependent and independent variables, various methods have been employed during this study. It includes the descriptive analysis, T-

test, One-way ANOVA, and Person Correlation Coefficient. The analysis of variance, the differences between means, and the association between variables.

### **Ethical Considerations**

The ethical committee approved the study proposal at the University of Mysore. The study objectives were clarified for the participants and informed consents were obtained for filling out the questionnaires, and the questionnaires were completed anonymously (without asking the name of the participants or knowing the participant beforehand).

### **Results**

In this study, the data has been collected from 462 research scholars in three universities in Karnataka. 59.8 percent of the participants were male, and 40.2 percent female. The participants belong to five departments of education including art and humanities, science and technology, commerce, education, and law.

The investigator requested the research scholars to rate the level of the challenges which they faced during the process of research. Based on the findings, there are seven steps for the research which is asked them to rate. The first step is a selection of the topic. 32.6 percent of the respondents have a little challenge during the selection of the topic, and only 12.3 percent reports that they do not have any challenge during topic selection. It means the challenges which the research scholars are facing during research is not too much. The second step of the challenges is finding the new resources. The result shows that 40.7 percent of the research scholars have a much and very much challenge. Only 5.3 percent of the respondents do not have any challenges to find the new resources for their research. The third step is to design the research model. The findings show that 38.8 percent much and very much have a challenge while designing the research model. Few research scholars (4.7%) do not have a challenge while designing the research model.

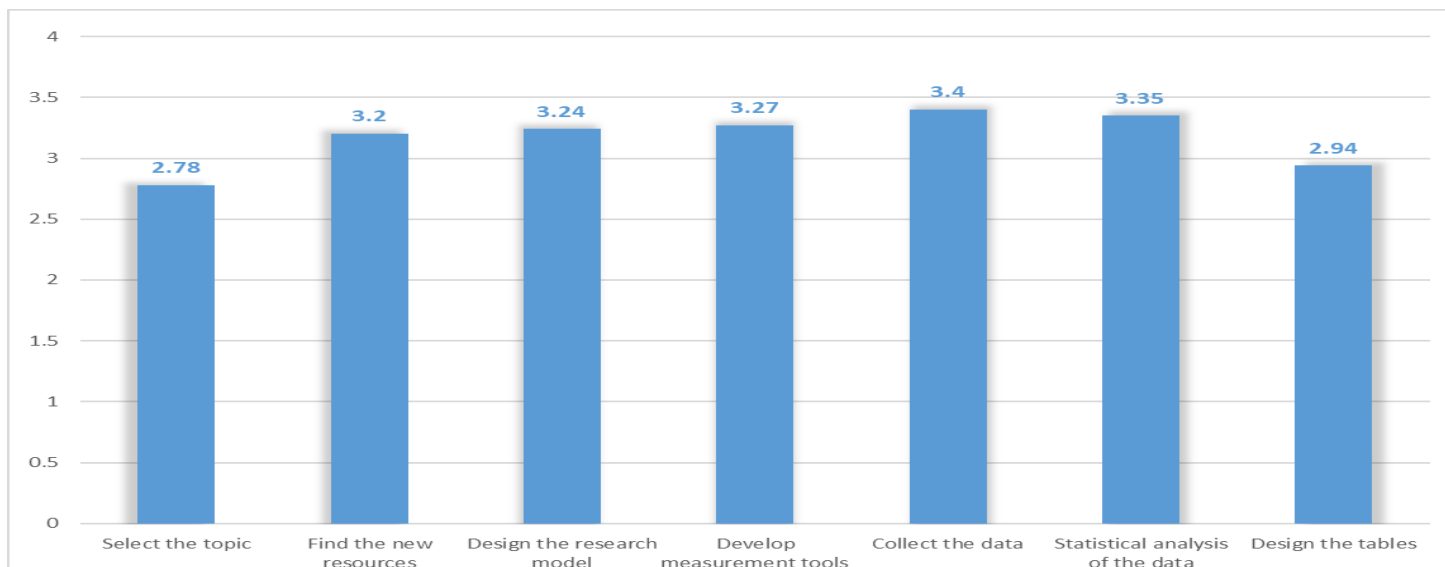
The next step is developing measurement tools. In this section, 43 percent much and very much challenges during their research. Only 6.1 percent of them does not challenge at all. Another step is a challenge during data collection. The maximum percentage belongs to much and very much challenges with 48.1 percent. The lowest percentage belongs to not at all with 5.7 percent.

Having a challenge in the statistical analysis of the data is the next challenge in research. In this step, the respondents have many challenges with 48.6 percent. The lowest percentage belongs to not at all with 7.8 percent. The last step of this question is, having a challenge while designing the tables. The maximum percentage belongs to both much and very much challenge with 34.1 percent and 13.5 percent for not at all.

The finding of the study indicates that the maximum reported challenge during research belongs to data collection with 3.40 and the statistical analysis of the data with 3.35. Designing the tables and selection of the topic have got minimum mean with 2.94 and 2.78 during the study. (see table 1)

**Table 1: Frequency and mean of challenges in the research process**

Research challenges	Frequency	Percent	Mean (1-5)	Total	
				Frequency	Percent
1. Select the topic					
Not at all	52	12.3	2.78	423	100
A little	138	32.6			
Moderate	118	27.9			
Much	79	18.7			
Very much	36	8.5			
2. Find the new resources					
Not at all	21	5.3	3.20	398	100
A little	91	22.9			
Moderate	124	31.2			
Much	111	27.9			
Very much	51	12.8			
3.Design the research model					
Not at all	19	4.7	3.24	402	100
A little	79	19.7			
Moderate	148	36.8			
Much	98	24.4			
Very much	58	14.4			
4.Develop measurement tools					
Not at all	23	6.1	3.27	377	100
A little	70	18.6			
Moderate	122	32.4			
Much	105	27.9			
Very much	57	15.1			
5.Collect the data					
Not at all	22	5.7	3.40	387	100
A little	61	15.8			
Moderate	118	30.5			
Much	109	28.2			
Very much	77	19.9			
6.Statistical analysis of the data					
Not at all	29	7.8	3.35	374	100
A little	61	16.3			
Moderate	102	27.3			
Much	113	30.2			
Very much	69	18.4			
7.Design the tables					
Not at all	51	13.5	2.94	379	100
A little	87	23.0			
Moderate	112	29.6			
Much	89	23.5			
Very much	40	10.6			



**Figure 1: Mean of challenges in the research process**

Finding a solution to the challenges that are mentioned in the last table, we asked the respondents to state how they face the challenges during research work. 40 percent of the research scholars declared that they would consult with the guide to get the solution. 26.7 percent of them affirmed that they would refer to more resources and do the exploratory study and 16 percent stated that they would consult with experts to get the solution which means totally 43.6 percent prefer to delay and do more research to get a better solution. 14.7 percent will confront the problems and try to solve it myself immediately that means they will not prefer to delay and do more research on the problem. Only 1.8 percent of the respondents mentioned that they do not have any challenges. (see table 2)

**Table 2: Frequency of facing the challenges during the research process**

How to face the challenges	Frequency	Valid percent
1. I did not have any challenges.	8	1.8
2. I confront the problems and try to solve it myself immediately.	67	14.7
3. I consult with my guide to get the solution.	182	40.0
4. I consult with experts to get the solution.	73	16.0
5. I refer to more resources and do the exploratory study.	126	27.6
<b>Total</b>	<b>456</b>	<b>98.7</b>

Facing challenges during research may cause immediate gratification or delay gratification while seeking information. When research scholars have more challenges in the process of thesis, they prefer to find the solution immediately or wait for the better solution for the challenges. In this section, we find out the

relationship between delayed gratification in information seeking behavior and the challenges which research scholars face during their research.

According to the statistical results (T-test), there is a significant difference between Develop measurement tools by sex. In this section, the mean of male (3.38) is more than female (3.12). Based on the findings of One-way ANOVA, the significant difference in developing measurement tools and designing the tables is by the department of education. In developing measurement tools and designing the tables, the highest mean belongs to art and humanities, and the minimum mean belongs to the science and technology department. Furthermore, there is a significant difference between designing the tables by the university. It shows research scholars in Bangalore University have fewer challenges than other universities in designing the tables for their thesis. The results of Pearson correlation coefficient indicate that there is a negative relationship between the selection of the topic in years which they study at the same university (-134).

Moreover, there is a positive relationship between design the research model, statistical analysis of the data, and design the tables with the grade of the research scholars in bachelor (more than 10%). The outcomes of One-way ANOVA show that there is a significant difference between finding the new resources by having fellowship for research. According to the findings of the Pearson correlation coefficient, there is a relationship between “like the field of study” and finding new resources positively and designing the tables negatively. Also, it shows the relationship between “like the topic of the study” and designing the research model positively and designing the tables negatively. (see table 3)

**Table 3: Analysis variance of challenges in research by demographic, and educational variables (based on T-test, One-way ANOVA, and Person Correlation Coefficient)**

Variables (mean)		Select the topic	Find the new resources	Design the research model	Develop measurement tools	Collect the data	Statistical analysis of the data	Design the tables
<b>Sex</b>	1. Male	-	-	-	3.38	-	-	-
	2. Female	-	-	-	3.12	-	-	-
	T	-	-	-	2.25 <sup>1</sup>	-	-	-
	Sig.	-	-	-	.025	-	-	-
<b>University</b>	1. Bangalore University	-	-	-	-	-	-	2.74
	2. Karnatak University	-	-	-	-	-	-	3.03
	3. University of Mysore	-	-	-	-	-	-	3.07
	F	-	-	-	-	-	-	3.04
	Sig.	-	-	-	-	-	-	.049
<b>Department of education</b>	1. Art and Humanities	-	-	-	3.60	-	-	3.29
	2. Science and Technology	-	-	-	3.16	-	-	2.79



	3. Commerce, education, law	-	-	-	3.17	-	-	3.22
	F	-	-	-	5.920	-	-	7.168
	Sig.	-	-	-	.003	-	-	.001
<b>Study in the same university</b>	Pearson Correlation	-.134	-	-	-	-	-	-
	Sig.	.006**	-	-	-	-	-	-
	N	417	-	-	-	-	-	-
<b>Grade in bachelor</b>	Pearson Correlation	-	-	.103	-	-	.115	.103
	Sig.	-	-	.041*	-	-	.027*	.046*
	N	-	-	395	-	-	370	375
<b>Like the field of study</b>	Pearson Correlation	-	.101	-	-	-	-	-.152
	Sig.	-	.046*	-	-	-	-	.003**
	N	-	391	-	-	-	-	370
<b>Like the topic</b>	Pearson Correlation	-	-	.123	-	-	-	-.138
	Sig.	-	-	.014*	-	-	-	.008**
	N	-	-	396	-	-	-	375

.<sup>1</sup> Levene's Test for Equality of variances based on Equal variances not assumed

\*Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

In this study, we considered seven challenges that research scholars may face during their study. One of these challenges is to find the new resources. The finding of Person Correlation Coefficient show, there is a significant relationship between finding the new resources and one of the dimensions of delay of gratification in information seeking behavior which is “Collect more information.” So, it shows that these variables are correlated positively with 13 percent.

Another challenge during research is to develop measurement tools which have a significant relationship with “Communication with Experts.” It confirms that these variables are correlated positively with 11 percent. Also, there is a significant association between “Collect more information” and developing measurement tools which mean these are associated positively with 12 percent. Moreover, there is no significant relationship between “Search Information” and “Topic selection” with “develop measurement tools.”

Statistical analysis of the data is another challenge which they face during research and has a significant association with “Communication with Experts,” and it means these variables are correlated positively with 11 percent. The researchers face challenges while designing the tables. So, there is a significant association between designing the tables and “Search Information.” It means they are associated negatively with 12 percent. (see table 4)

**Table 4: Correlation coefficient matrix of dimensions of delayed gratification in information seeking behavior and challenges of research**

Research challenges		1.Search information	2.Communication with experts	3.Collect more information	4.Topic selection
Find the new resources	Pearson Correlation	-	-	.128	-
	Sig. (2-tailed)	-	-	.010**	-
	N	-	-	398	-
Develop measurement tools	Pearson Correlation	-	.107	.117	-
	Sig. (2-tailed)	-	.038*	.023*	-
	N	-	377	377	-
Statistical analysis of the data	Pearson Correlation	-	.107	-	-
	Sig. (2-tailed)	-	.038*	-	-
	N	-	377	-	-
Design the tables	Pearson Correlation	-.119	-	-	-
	Sig. (2-tailed)	.020*	-	-	-
	N	379	-	-	-

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## Discussion

Facing challenges during ongoing research is very common among research scholars. Challenges are an opportunity to make a high research quality and receiving better results. For this purpose, the researchers should put more effort to overcome the challenges. In this way, the researchers can get respond to the challenges in two ways which are a positive reaction and a negative reaction.

In the positive reaction, the researchers think more, read more and put more effort to find the solution to the challenges. In consequence, they consult and communicate with experts to find the answer, and it causes corporation and contribution in the research. These researchers have long-time goals, and the quality of the research is essential for them. So, they are more responsible in commitment to the research. Moreover, they have adherence to the academic norms and try to do ethical research. All of these features belong to such researchers who do delayed gratification while seeking information.

In the negative reaction to the challenges, we face the researchers who may ignore the challenges and look for a quick answer to the problem or copy and paste. These types of the researchers have short-time goals, and the quality is not essential for them. They like to solve the problem individually and immediately. Furthermore, they have less responsibility, less commitment, and less adherence to the academic norms. This kind of the researchers finishes their work without consultation and communication with experts. So, they are the immediate type of the researchers who believe in working fast without commitment.

This study indicates that the challenges during the research work have a positive effect on communicating with experts and collecting more information. As the results of the study, the challenges in developing

measurement tools will cause more communication with experts and collect more information for their study. Also, the researchers do more communication when they have challenges in the analysis of data.

## **Conclusion**

We considered seven challenges that research scholars may face during their study and show the relationship between the dimensions of delay of gratification in information seeking behavior and challenges. The finding of the study indicates that the maximum reported challenge by research scholars during research belongs to data collection and statistical analysis of the data. The minimum challenges during research belong to designing the tables and the selection of the topic. To find the solution for challenges, 40 percent of the research scholars declared that they would consult with the guide to get the solution. Totally 83.6 percent prefer to delay and do more research to get a better solution.

In data analysis, the relationship between delayed gratification in information seeking behavior and the challenges which research scholars face during their research has been identified by demographic, and educational variables, as a male have more challenges than female. The result indicates that in the department of education, the highest mean belongs to art and humanities, and the minimum mean belongs to the science and technology department. Bangalore University has fewer challenges than other universities in designing the tables for their thesis. Also, if the grade of bachelor is more, they face fewer challenges during research. If the research scholars have fellowship, they have more challenges to find the resources.

The findings show that if the research scholars like their field of study, they have more challenges in finding new resources and fewer challenges in designing the tables. Also, it shows if they like their topic of the study, they have more challenges in designing the research model and fewer challenges in designing the tables.

There is a significant relationship between research challenges including finding the new resources, developing measurement tools, statistical analysis of the data, designing the tables and the dimension of delayed gratification in information seeking behavior. Also, there is no significant relationship between finding the new resources and “Search Information,” “Communication with Experts,” and “Topic Selection.”

This study is limited to collect data from three universities in Karnataka. Moreover, it is limited to self-reported data which most people like to state better performance in their research.

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